application.

IN THE CLAIMS:

Please cancel Claims 11, 18, and 23 without prejudice and without dedication or abandonment of the subject matter thereof.

Please amend Claims 1 through 10, 19 through 22, and 24 through 48 as follows:

1. A method for detection and identification of constituents of extracts from plants or animals, natural or synthetic sources possessing medicinal value, using chromatographic finger printing techniques, the method comprising the steps of:

i. extracting organic or organo-metallic compounds from plants or animal, natural or synthetic sources using a suitable solvent;

ii. subjecting the extract obtained in step i. to separation based on pH and polarity, using High Pressure Liquid Chromatography (HPLC) techniques;

iii. generating contour and 3D chromatograms of the constituents eluted in step ii.;

iv. converting the 3-D and contour chromatogram obtained into a colored image, analyzing the colored image for its individual colors using the co-ordinates denoting all its 3-dimensional properties of said image by using a newly-developed in-built software;

v. denoting the concentrations of the various constituents eluted with time;

vi. generating a chromatogram based on color analyzed, having peaks at various retention times along with conjugative properties of the constituents;

vii. identifying the compounds in said ingredients by the Ultra Violet and Visible electromagnetic radiation absorptive properties of the various constituents in the image;

viii. identifying, determining and classifying the compounds eluted as polar, medium polar and less or non-polar based on the polarity and conjugative properties;

ix. generating a barcode for a selected peak using the X-axis as Retention Time, the Y-axis as Wavelength, R as number of Red Pixels, G as number of Green Pixels and B as number of Blue Pixels; and

x. generating a database of fingerprints and barcodes and identifying the respective compounds of the extract.

2. A method as claimed in claim 1, wherein the solvents with different polarities are used for extraction based on the hydrophilic and hydrophobic nature of the constituents present in the sample under study, and ethyl alcohol is used as a solvent for preparation and for standardization of medicinal extracts.

3. A method as claimed in claim 1, wherein the fingerprints are developed for the same medicinal extract under different pH ranges.

4. A method as claimed in claim 1, wherein the HPLC technique used is by employing any commercially available HPLC apparatus with the Photo Diode Array detector, preferably with a gradient or ternary system of pumps.

5. A method as claimed in claim 1, wherein the method is carried out using standard analytical parameters like extraction with ethyl alcohol, maintaining a run time of 0-60 minutes, eluting with a mobile phase of acetonitrile along with a phosphate buffer having a pH in the range of 5.5-7.5, and an Ultra Violet and Visible detector having the electromagnetic radiation range of 200-800nm for fingerprinting, chemical and therapeutic standardization.

6. A method as claimed in claim 1, wherein the solvent used in step iii. is selected from a group consisting of the non-aqueous, organic and aqueous, water or buffer at a known pH are selected based on the range of polarity.

7. A method as claimed in claim 1, wherein converting the contour chromatograms into a colored image consisting of conjugative and polarity properties of the constituents of the medicinal extract under study.

8. A method as claimed in claim 1, wherein the therapeutic efficacy of a medicinal extract (single or formulated) is assessed using the quality of the constituents present in a particular polarity and UV-Vis absorptive zone.

9. A method as claimed in claim 1, further comprising wherein the software generates a barcode for a selected peak or peaks or image using the X-axis as Retention Time, the Y-axis as Wavelength, R as number of Red Pixels, G as number of Green Pixels and B as number of Blue Pixels as the coordinates, provided by the software, which makes the product propriety for an industry.

10. A software called "Rainbow" for detection and identification of extracts of plant or animal origin, natural or synthetic sources possessing medicinal values obtained as claimed in claim 1 with the following features:

(a) a software capable of opening chromatographic fingerprint images in different Formats (extensions) like BMP, JPEG, TIF, GIF from the file folders and analyze it for different colors present in the image with single pixel sensitivity;

(b) a software capable of creating a display of the pixel information in the form of 1.a graph having a scale of X (0-(min. time scale) and Y (200-800nm) coordinates and 2. a Pie diagram with individual values of each peak (Automatic and Manual) in two separate columns beside the graph;

(c) a software capable of printing all the data generated after analysis using the PRINT Icon;

(d) a software capable of changing the page setup for printing using the PAGE SETUP Icon;

(e) a software capable of selecting a part of the image and making an analysis using the RESIZE Icon;

(f) a software capable of opening any number of image analysis windows for different images, and of displaying the status in the WINDOW icon;

(g) a software capable of dividing the image into three Zones at 20 minute intervals, using the ZONE icon;

(h) a software capable of inverting the selected image using the INVERT icon;

(i) a software capable of switching over to Notepad, Word pad and MS Word, using the EDITOR icon;

(j) a software capable of providing operational information about various features of the Software using the HELP icon; and

(k) software capable of saving the data generated using SAVE AS icon as JPEG file format.

Please cancel Claim 11 without prejudice and without dedication or abandonment of the subject matter thereof.

12. A software as claimed in claim 10 further including the use of solvents for extraction, said solvents being selected based on the polarity, hydrophilic and hydrophobic nature of the constituents of the sample and its constituents under study.

13. A software as claimed in claim 10 further including the use of an HPLC apparatus, said HPLC apparatus is selected form any commercially available HPLC apparatus with the Photo Diode Array detector, preferably with a gradient or ternary system of pumps.

14. A software as claimed in claim 10, wherein the polarity of the mobile phase is controlled by varying the ratio of the mobile phase from 0% to 100% of an aqueous buffer of a known pH, along with a non-aqueous solvent like acetonitrile and vice-versa.

15. A software as claimed in claim 10, wherein on analysis of 3-D and contour chromatograms using new software called Rainbow, that gives a chromatogram with retention time and wavelength on its X-axis and its Y-axis.

16. A software as claimed in claim 10, wherein on analysis of 3-D and contour chromatograms using new software which gives a data having

indicated the "vitiation of doshas" (the balancing of properties) quantitatively in percentage ratio.

17. A software as claimed in claim 10, which uses a single solvent ethanol for extraction of the constituents; same analytical conditions and instrumental parameters are used for all samples to bring the therapeutic generalizations thereby achieving therapeutic standardization.

Please cancel Claim 18 without prejudice and without dedication or abandonment of the subject matter thereof.

19. A method as claimed in claim 1 which is a computational method of chromatographic finger printing, chemical and therapeutic standardization and bar coding of organic and organo-metallic molecules from a plant, animal or a naturally available or man-made materials used as medicines, the method comprising

(a) selecting plant, animal or a naturally-available or man-made material which possess medicinal value, and extracting the constituents,

(b) separating the constituents into individual compounds, generating and converting the 3-D and contour chromatograms into fingerprints,

(c) analyzing the fingerprints using the software developed, and

(d) interpreting the data.

20. A method as claimed in claim 1, wherein step iv provides an in-built software for chemical analysis of the constituents present in the extract under study and their conjugative and polarity properties indicating the therapeutic efficacy of the medicine as per the traditional concepts of the medicine using the new software developed.

21. A method as claimed in claim 1, wherein step iv an in-built software provides a novel concept for obtaining chromatographic finger printing of material having medicinal value for the quick identification of the actual profile of the compounds present in the medicine under use along with the therapeutic efficacy of the constituents.

22. A method as claimed in claim 1 wherein in step iv an in-built software provides a novel chromatographic finger printing of herbal medicines and formulations using the contour and 3-D chromatograms of the herbal medicines and formulations is proposed and they are developed on a Photo Diode Array Detector (PDA) of a High Pressure Liquid Chromatography, which delineates the data of the spectral properties of the constituents present in the material having medicinal value, presented in a specific order of polarity, generated under similar experimental analytical conditions.

Please cancel Claim 23 without prejudice and without dedication or abandonment of the subject matter thereof.

24. A method as claimed in claim 1, wherein in step vii "The Chromatographic Fingerprint" is the blue print of the constituents present in an herbal medicine or formulation for an assay and quick identification of the medicine under study.

25. A method as claimed in claim 1, wherein same standard analytical parameters like extraction with same solvent ethyl alcohol, same run time 0-60min, same mobile phase acetonitrile along with phosphate buffer having a pH in the range of 5.5-7.5, and a same UV-Visible Range of 200-800nm for fingerprinting and chemical and therapeutic standardization.

26. A method as claimed in claim 1, wherein the fingerprinting data obtained are used for the study of adulterated, substituted, contradictual and commercial food and drug samples and to identify the pure and impure.

27. A method as claimed in claim 1, wherein fingerprint data obtained are used for identifying the chemical constituents present in it for the purpose of process standardization, quality control activities and therapeutic standardization of Allopathic, Ayurvedic, Homoeo, Siddha,Unani, Chinese,

Tibetan, Kampo (Japanese) medicines.

28. A method as claimed in claim 1, wherein the fingerprinting data obtained are used for the study of variation of chemical constituents due to various ecological factors, geological factors, genotypic and phenotypic variations (in plants) in naturally occurring samples and to identify and standardize the chemical constituents in them.

29. A method as claimed in claim 1, wherein the fingerprinting data obtained are used for the study of chemical constituents in synthetically prepared samples and to identify and standardize the chemical constituents in them for chemical and therapeutic standardization whichever is applicable.

30. A method as claimed in claim 1, wherein the fingerprinting data obtained are used for the study of chemical constituents in herbal products of single medicine samples and to identify the chemical constituents in them for chemical and therapeutic standardization.

31. A method as claimed in claim 1, wherein the fingerprinting data obtained are used for the study of chemical constituents in herbal products of formulated medicine samples and to identify the chemical constituents in them for chemical and therapeutic standardization.

32. A method as claimed in claim 1, wherein the fingerprinting data obtained are used for the study of variation of chemical constituents in biological samples and to identify and standardize the chemical constituents in them for chemical and therapeutic standardization.

33. A method as claimed in claim 1, wherein the fingerprinting data obtained are used for the study of variation of chemical constituents in different brands of products of single and formulated food and medicine samples and to identify the chemical constituents in them for chemical and therapeutic standardization.

34. A method as claimed in claim 1, wherein in step ix preparation of a database of a large number samples gives many generalizations of the therapeutic efficacy of a particular group of plants, classified as a group for a particular disease or therapeutic classification.

35. A method as claimed in claim 1, wherein fingerprint data of medicines facilitates the categorization and quantification of the constituents of a medicine based on polarity and conjugation from 3-D and contour chromatograms and assess the therapeutic efficacy of the medicine on which humors it is going to act (vitiate).

36. A method as claimed in claim 1, wherein fingerprint data obtained enables the understanding and standardization of the Physico-Chemical properties of the medicines like color for the use of therapeutic standardization of medicines and humors (Tri Doshas) using conjugative and polarity properties given in the chromatographic fingerprints.

37. A method as claimed in claim 1, wherein fingerprint data obtained enables the understanding and standardization of the Physico-Chemical properties of the medicines like Tastes (Rasa) like Sour, Salty, Pungent, Bitter, Astringent (Amla, Lavana, Katu, Tikta, Kashaya as described in Ayurveda) used for therapeutic standardization using conjugative and polarity properties shown in the chromatographic fingerprints.

38. A method as claimed in claim 1, wherein fingerprint data obtained enables the understanding and standardization of the Physico-Chemical properties of the medicines like Property, Potency, Metabolite, Specific properties like Chirality of the molecules (Guna, Veerya Vipaka, Prabhava) used for the therapeutic standardization using conjugative and polarity properties of the individual constituents and the whole medicine shown in the chromatographic fingerprints.

39. A method as claimed in claim 1, wherein fingerprint data obtained enables the understanding and standardization of the Physico-Chemical properties (Gunas) of the medicines like Cold, Hot, Slow in action, Sharp in action, Heavy, Light, Soft Lubricated Supple, Dry (Sheeta, Ushan, Manda, Teekshna, Guru, Laghu, Snigdha, Rooksha as described in Ayurveda) used for the therapeutic standardization using conjugative and polarity properties of the medicinal extracts shown in chromatographic fingerprints.

40. A software as claimed in claim 10 is used as a data processor of 3-D chromatograms and color contour image of an ingredient, said processing comprising computing means and:

i. an analyzer (extracting colors) for analyzing the colored contour image based on the selection of various colors (with standards mentioned in release notes, life cycle, processing) denoting the concentrations of the various constituents eluted with time, and polarity based on retention time;

ii. an analyzer for analyzing the 3-D chromatograms of the medicinal extract using all its 3 dimensional properties of the image;

iii. means for generating a chromatogram having peaks at various retention times along with conjugative properties of the molecules eluted with time in a specified order of polarity;

iv. an identifier for identifying the compounds in said extract by the Ultra Violet and Visible electromagnetic radiation absorptive properties of the

various eluted constituents in the image;

v. means for correlating the reported biological, therapeutic activity of the of various eluted constituents present in the medicinal sample under study based on the polarity and the conjugative properties of the molecules by dividing the fingerprint into therapeutic zones on the X-axis and the Y-axis;

vi. means for generating a barcode for selected peak(s) using the image coordinates such as X for retention time, Y for wavelength, R for number of red pixels, G for number or green pixels and B for number of blue pixels, provided by the proposed software;

vii. means for generating a database of fingerprints and barcodes for the samples, facilitating all kinds of database utilities like Enterprise Resource Planning (ERP) and Customer Relationship Management (CRM) applications; and

viii. means for generating a database of the 'display widows' for all the samples to be used by the ENTERPRISE RESOURCE PLANNING (ERP) and CUSTOMER RELATIONSHIP MANAGEMENT (CRM) type of business applications.

41. A processor as claimed in claim 40, further including solvents for extraction, said solvents being selected based on the polarity, hydrophilic and hydrophobic nature of the constituents, sample and its constituents under study.

42. A processor as claimed in claim 40, further including an HPLC apparatus, said HPLC apparatus being selected form any commercially available HPLC apparatus with the Photo Diode Array detector, preferably with a gradient or ternary system of pumps.

43. A processor as claimed in claim 40, wherein the polarity of the mobile phase of a non-aqueous and an aqueous solvent of a specific pH is controlled by varying the ratio of the mobile phase from 0% to 100% of an aqueous solvent like water or a buffer of a known pH, along with a non-aqueous solvent or vice-versa.

44. A processor as claimed in claim 40, wherein on analysis of 3-D and contour chromatograms using new software entitled " Rainbow " prepared specifically for this purpose that gives a chromatogram with retention time and wavelength on its X-axis and its Y-axis.

45. A processor as claimed in claim 40, wherein on analysis of 3-D and contour chromatograms using new software which gives data having indicated the vitiation of doshas quantitatively in percentage ratio.

46. A processor as claimed in claim 40, wherein a single solvent ethanol is

used for extraction of the constituents; same analytical conditions and instrumental parameters were used for all samples to bring the therapeutic generalizations to achieve the therapeutic standardization.

47. A processor as claimed in claim 40, wherein the software Rainbow has the following features:

(a) A software with a capability of opening chromatographic fingerprint images in different Formats (extensions) like BMP, JPEG, TIF, GIF from the file folders and analyze it for different colors present in the image with single pixel sensitivity;

(b) A software with a capability of display of the pixel information in the form of 1.a graph having a scale of X (0-(min. time scale) and Y (200-800nm) coordinates and 2. a Pie diagram with individual values of each peak (Automatic and Manual) in two separate columns beside the graph;

(c) Software with a capability of printing all the data generated after analysis using the PRINT icon;

(d) A software with a capability of changing the page setup for printing using the PAGE SETUP Icon;

(e) A software with a capability of selecting a part of the image and analyze using the RESIZE Icon;

(f) A software with a capability of opening any number of image analysis windows for different images, and display of status in the WINDOW icon;